

5711 SW MULTNOMAH BLVD.

REV-01 RS08-139578

RS. 08. 139578 REV. 01.

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MICROFILMED

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CITY OF
PORTLAND, OREGON
BUREAU OF DEVELOPMENT SERVICES
1900 SW 4th Ave., Suite 5000
Portland, OR 97201



RESIDENTIAL 1 & 2 FAMILY PERMIT

08-139578-REV-01-RS

Site Address: 5711 SW MULTNOMAH BLVD

Issued: 7/10/08

PROJECT INFORMATION		Occ. Group	Const. Type
Decks, Fences, Retaining Walls	Alteration	U	V-B
Project Description: REVISION TO MOVE SUPPORTS AT EAST END OF DECK, CHANGE TO WOOD RAIL SYSTEM			
APPLICANT		Phone (503) 632-8777	
PROPERTY OWNER		Phone	
CONTRACTOR		Phone	

Project Details		Project Details	
Code Edition	2005 ORSC	Construction Type 4	
Final adj to ICC Value reason - Display	Calculated via Tables	GIS Update Flag	06/23/08
Square Footage - Occ 1	496	Total Square Footage - Display Only	496
Valuation at Issuance	11500	Water District	Portland Water Bureau
Zoning Enforcement Agency	Portland		

This permit expires if, at any time, 180 days pass without an approved inspection. If you are not able to obtain an inspection approval within 180 days, you may request a one-time only extension of 180 days by calling 503-823-7388.

**BEFORE
YOU DIG**

ATTENTION: Oregon law requires you to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 852-001-0010 through OAR 852-001-0080. You may obtain copies of the rules by calling the center. (Note: the telephone number for the Oregon Utility Notification Center is 1-800-332-2344).

CITY CONTACT

E-Mail:

Phone:

Fax: (503) 823-4172

**INSPECTION REQUEST
PHONE NUMBERS**

Building/Trade Inspections - Call Before 6:00 AM:

(503) *3-7000

TDD: (503) 823-6868

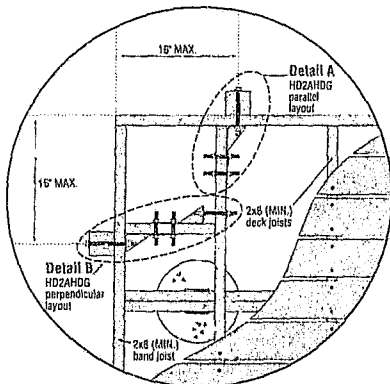
**IVR Inspection Request
Number:**

2769435

PAID

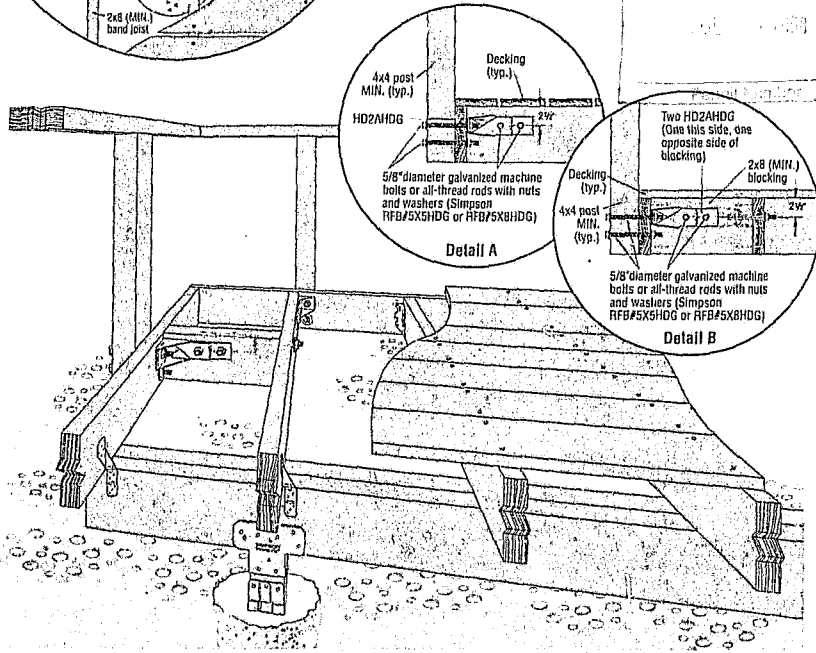
CITY OF PORTLAND

HD2AHDG Holdown Guardrail Post Application



Investigations of injuries due to deck failures indicate that the guardrail post connection to the band joist is the cause in many cases. Testing has shown that typical connections using lag screws or through-bolts do not meet code requirements. The Simpson HD2AHDG holdown has been tested as a lateral anchor for the guardrail post connection. Two configurations were tested: one holdown installed on the joist (Detail A) and two holdowns installed back-to-back on blocking (Detail B). Both configurations meet the code prescribed load of 500 lbs. at a height of 3 feet above the deck surface.

- HD2AHDG holdowns are hot-dip galvanized for added corrosion protection.
- May be used for new construction or retrofitted on an existing deck.
- Meets provisions set by the IRC/IBC 2000, 2003 and 2006.
- Tested within the limits prescribed by ICC's Acceptance Criteria for Handrails and Guards (AC273) and for Joist Hangers and Similar Devices (AC13).



HD2AHDG **Guardrails: What the Codes Require**



When is a guardrail required?

"When porches, balconies, ramps or raised floor surfaces are located more than 30 inches above the floor or grade below..."

International Residential Code® - 2000, 2003 & 2006 (sections R316.1 - 2000, R312.1 - 2003/2006)

"Guards shall be located along open-sided walking surfaces...that are located more than 30 inches above floor or grade below."

International Building Code® - 2000, 2003 & 2006 (sections 1003.2.12-2000, 1012.1 - 2003, 1013.1-2006)

If the guardrail is not required because the deck or porch is not at least 30 inches above the finish grade, does a guardrail have to be code compliant?

Responsibility: "It shall be the duty of every person who performs work for the installation or repair of building structure...to comply with this code."

International Residential Code® - 2000, 2003 & 2006 section R105.0)

Conditions: "Structures or existing equipment that are or hereafter become unsafe...or otherwise dangerous to human life...shall be deemed an unsafe condition. Unsafe structures shall be taken down and removed or made safe, as the building official deems necessary."

International Building Code® - 2000, 2003 & 2006 (section 115.1)

What is the guardrail height requirement?

"...not less than 36 inches in height..."

International Residential Code® - 2000, 2003 & 2006 (sections R316.1 - 2000, R312.1 - 2003 & 2006)

"Guards shall form a protective barrier not less than 42 inches high."

Exceptions: "For occupancies in Group R-3, and within individual dwelling units...R-2... height measured not less than 34 inches and not more than 38 inches..."

International Building Code® - 2000, 2003 & 2006 (sections 1003.2.12.1 - 2000, 1012.2 - 2003, 1013.2 - 2006)

How much force must a handrail or guard be capable of resisting?

"Handrail assemblies and guards shall be able to resist a single concentrated load of 200 lbs., applied in any direction at any point along the top, and have attachment devices and supporting structure to transfer this loading to appropriate structural elements."

International Residential Code® - 2000, 2003 & 2006 (Table R301.4 (d) - 2000, Table R301.5 (d) - 2003/2006)

International Building Code® - 2000, 2003 & 2006 (section 1607.7.1.1)

What is the standard used to determine the performance of handrails and guards?

International Code Council Evaluation Service Test Acceptance Criteria 273.

How are handrails and guards tested?

The mounting of the handrails and supporting structure shall be capable of withstanding a load of at least 500 lbs.

When the load reaches 200 lbs., the deflection at the point of loading shall be recorded. The allowable deflection at 200 lbs. shall **NOT** exceed:

$$h \text{ (height in inches of the guard)} + 24 + 1 \text{ (length between posts)} + 96$$

For example:

Given a 36" railing and 6' between the posts:

$$36 + 24 = 114" \text{ plus } 72 = 186 = 14'$$

Total deflection must be $\leq 2\frac{1}{2}$ inches

Why have the code requirements changed?

Based on a study conducted at Virginia Tech. on the post-to-rail connection, 1/2" lag screws with washers and 1/2" machine bolts with washers failed to meet the load and deflection criteria as established by AC273.

Why the Simpson Strong-Tie® solution?

The connection details, as shown, have been tested and successfully performed to meet or exceed the criteria as established by the code and AC273.

Post-to-Deck Assembly	Average Deflection at 200 lbs.	Average Test Ultimate
HD2AHDG parallel-to-joist	1.5"	790 lbs.
HD2AHDG perpendicular-to-joist	1.5"	655 lbs.

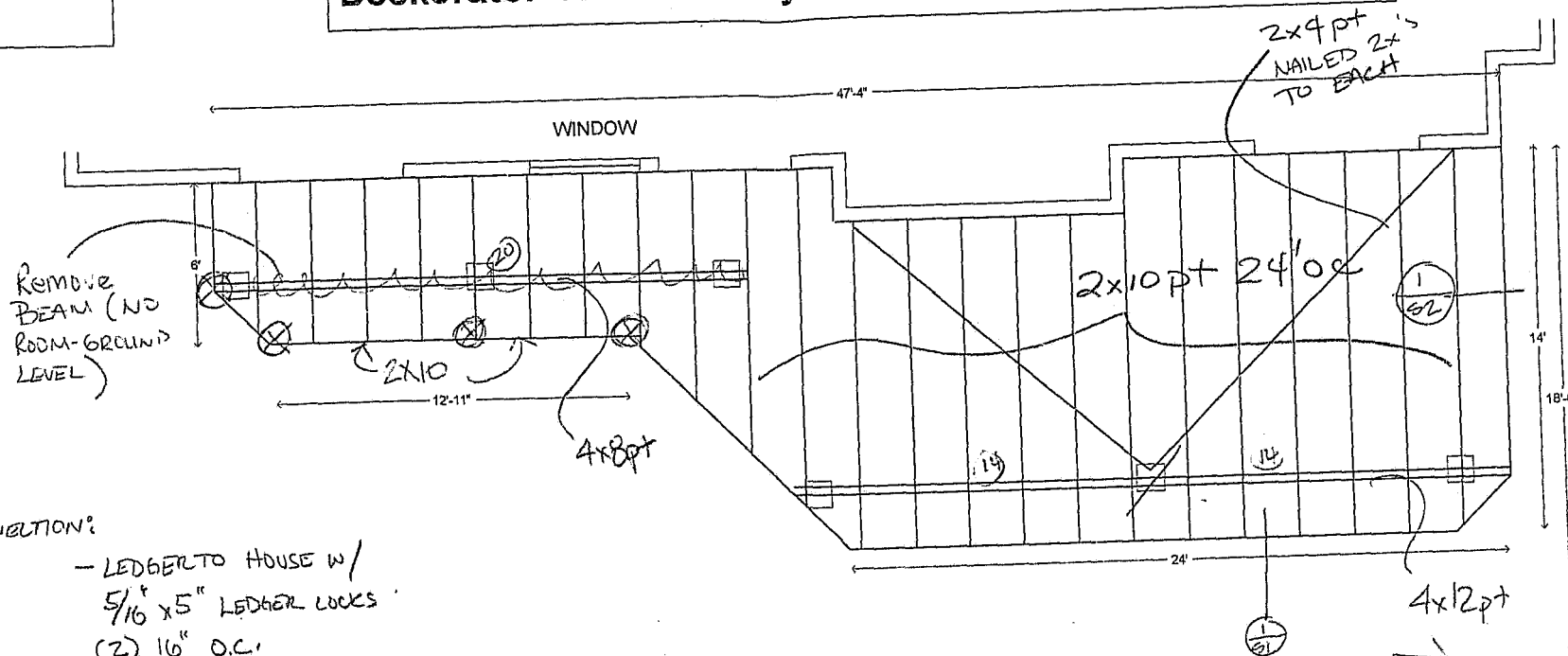
This bulletin is effective until June 30, 2008, and reflects information available as of Sept. 1, 2005. This information is updated periodically and should not be relied upon after June 30, 2008; contact Simpson for current information and limited warranty or see www.strongtie.com.

Head Office 5500 W. 144th Avenue Plymouth, MN 55455 FAX: 952/934-1503	Southwest U.S.A. 2501 N. Palm Street Brea, CA 92621 FAX: 714/871-8167	Southeast U.S.A. 2221 Palm Street McKinney, TX 75069 FAX: 972/42-5378	Eastern Canada 2221 Palm Street Brampton, ON L6T 5G5 FAX: 905/450-7274	Warehouses: 2221 Palm Street High Point, NC Jacksonville, FL Lafayette, CA	800-999-5099 www.strongtie.com
Northwest U.S.A. 4151 B. Airport Way Stockton, CA 95206 FAX: 209/224-3558	Northeast U.S.A. 2000 Cardinal Street Columbus, OH 43228 FAX: 614/976-0038	Quick Drive Factory 436 Cardinal Drive Dallas, TX 75064 FAX: 615/451-8900	Western Canada 1416 Kingsway Maple Ridge, BC V2X 0Y6 FAX: 604/455-0282	Specialty Fabricator: 1416 Kingsway Eugene, OR Kent, WA	© 2005 Simpson Strong-Tie Company, Inc. Printed in the U.S.A. T-H2AHDG0010 5/05 rev. 6/05

Client: Danner

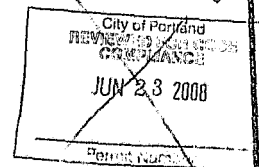
pt36; Page: of 1 Project # 8065

WESTERN RED SELECT TK CEDAR DECKING
Deckorator Classic rail system BRONZE picketts



CONNECTIONS:

- LEDGER TO HOUSE w/
5/16" x 5" LEDGER LOCKS
(2) 16" O.C.
- JOIST TO LEDGER w/ LUS210Z
- POST TO BEAM w/ 2x4pt NAILED
3x3 TO EACH
- POST TO FOOTING w/ EPB44 HDB.



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